

Issue Paper Seismic Evaluation of Newer Non-Conforming Buildings for School Use

ISSUE:

When public schools and community colleges are required to be structurally rehabilitated per CAC Section 4-309(c), the seismic evaluation and design is required to be in accordance with one of the following design methods outlined in CBC 3417-3423:

- 1) ASCE 41-06 Seismic Evaluation of Existing Buildings.
- 2) Current CBC using the provisions required for new school buildings with applicable DSA amendments (e.g. A-chapters).
- 3) CBC Section 3419.1 Exception which allows buildings constructed to the requirements of the 1998 CBC or newer, as adopted by the governing jurisdiction, to be used in place of those in method 1 or 2 described above.

Method 3 allows public schools and community colleges to purchase newer commercial buildings designed to the 1998 CBC or newer, as adopted by the local building jurisdiction, and convert them to school use by analyzing them to that same code they were originally designed to and forego the DSA amendments. This amendment was first introduced into the 2007 CBC. At that time, California had been using the same model building code (1997 UBC) from the 1998 CBC up until the adoption of the 2007 CBC. So in essence, this method allowed the evaluation to be based on the prior code cycle. It should be noted that the 2001 CBC was essentially unchanged from the 1998 CBC. Since the adoption of the 1998 CBC, there have been significant developments in the seismic ground motions used in buildings design, the effects of irregularities and redundancy in building design, and changes to the design coefficients and factors used for the design of seismic force-resisting systems of buildings. These changes can significantly affect the level of safety of 1998 CBC buildings when compared to those under the 2013 CBC. For this design method, the benchmark year of the 1998 CBC should be continually adjusted to remain within 2 code cycles of the current CBC. DSA is proposing that the 1998 CBC reference be updated to the 2007 CBC.

PROPOSAL:

Amend 2013 CBC Chapter 34 as follows:

3419.1 Basis for evaluation and design. *This section determines what technical approach is to be used for the seismic evaluation and design for existing buildings. For those buildings or portions of buildings for which [Section 3417](#) requires action, the procedures and limitations for the evaluation of existing buildings and design of retrofit systems and/or repair thereof shall be implemented in accordance with this section.*

One of the following approaches must be used:

1. *Method A of Section 3420;*
2. *Method B of Section 3421, with independent review of a peer reviewer as required in Section ~~3420~~ 3422; or*
3. *For state-owned buildings only, the use of one of the specific procedures listed in Section 3419.1.1.*

When Method B is chosen it must be approved by the building official, and, where applicable, by the peer reviewer. All referenced standards in ASCE 41 shall be replaced by referenced standards listed in Chapter 35 of this code.

Exception: *For buildings constructed to the requirements of California Building Code, ~~1998~~ 2007 or later edition as adopted by the governing jurisdiction, that code is permitted to be used in place of those specified in Section 3419.1.*